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Surviving a Torrential Downpour

University of Dayton, Ohio (url: http://www.udayton.edu/index.php)

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August 10, 2011 - The United States Air Force has awarded the University of Dayton Research Institute a $24.5 million contract to test and evaluate protective paints and coatings for aerospace and other applications.

The five-year contract allows University of Dayton researchers to continue operating and maintaining the Air Force Research Laboratory's Coatings Technology Integration Office, Special Test and Research facilities and water- and sand-erosion labs at Wright-Patterson Air Force Base, which they have operated for 10 years.

Under the new contract, the Research Institute also will operate AFRL's new Supersonic Rain Erosion (SURE) facility, which will shoot raindrops at speeds up to Mach 2.5 to test the durability of coatings, sealants and other aerospace materials. The new contract replaces and expands on a recently expired five-year, $10.1 million contract.

University of Dayton researchers test and evaluate the performance of coatings and materials used primarily for military and commercial aerospace applications under a variety of conditions, including extreme temperatures and humidity, and also assist in the development of advanced coatings. In the erosion labs, researchers test the durability of coatings exposed to water erosion, such as simulated rainfall, and particle erosion, such as sand.

"Paints, sealants and other coatings contain special properties that protect surfaces from damaging environments," said Bill Culhane, coatings group leader at the University of Dayton Research Institute. "By scientifically evaluating coatings we can verify they are doing their jobs and recommend the best coatings for specific applications and environments. It's much easier and efficient to protect a surface with the right paint than to replace the surface."

In addition to testing, evaluating and research and development of coatings, University of Dayton researchers transition new coating technologies to market, provide assistance for field coating problems, develop and evaluate paint removal methods for metals and composites, and provide corrosion analysis and prevention recommendations.

Although the labs are located on base, Culhane said the coatings application and testing facilities are available to industrial customers through Cooperative Research and Development Agreements (CRADAs).

For more information, contact Bill Culhane at 937-255-0197or william.culhane.ctr@wpafb.af.mil.